

**RECOVERY PROGRAM**  
**FY 2014-2015 SCOPE OF WORK for:**  
(Passage & O&M: Redlands Diversion Dam)

Recovery Program Project Number: C-4bRED

Reclamation Agreement number: R10PG40085  
Reclamation Agreement term: *Oct. 1, 2013 – Sep. 30, 2018*

Lead agency: Fish and Wildlife Service  
Colorado River Fishery Project – Grand Junction (CRFP-GJ)

Submitted by: Travis Francis, Fishery Biologist  
Dale Ryden, Project Leader

Address: 445 West Gunnison Ave.  
Grand Junction, CO 81501

Phone: (970) 245-9319

FAX: (970) 245-6933

Email: travis\_francis@fws.gov  
dale\_ryden@fws.gov

Date Last Modified: 5/28/2013

Category:

- Ongoing project  
 Ongoing-revised project  
 Requested new project  
 Unsolicited proposal

Expected Funding Source:

- Annual funds  
 Capital funds  
 Other *[explain]*

I. Title of Proposal: **Annual Operation and Maintenance of the Fish Passage Structure at Redlands Diversion Dam on the Gunnison River.**

II. Relationship to RIPRAP:

Colorado River Action Plan: Gunnison River

II.B.1. Restore passage at Redlands.

II.B.1.c. Operate and maintain fish ladder.

III. Study Background/Rationale and Hypotheses:

General

The Redlands Dam fish passageway, constructed on the Gunnison River, a major tributary of the Colorado River, near Grand Junction, Colorado, was completed in June 1996. The first of its kind in the Upper Colorado River Basin, its specific purpose was to provide upstream passage for two Federally listed fishes, the Colorado pikeminnow and razorback sucker. It was also designed for selective passage. That is, it was to preclude upstream movement of nonnative fish.

## Project Results to Date

Eleven thousand five hundred sixty two (11,562) fish were counted in the trap of the Redlands Diversion Dam fishway between 18 April and 18 October 2012. This annual total is the third highest in seventeen years of operation. Native fishes comprised 89% of the total number of fishes collected in 2012, compared to 94% in 1996 and 1997, 93% in 1998 and 1999, 92% in 2000, 83% in 2001, 66% in 2002, 68% in 2003, 77% in 2004, 74% in 2005, 85% in 2006, 83% in 2007, 76% in 2008, 86% in 2009, 87% in 2010, and 81% in 2011. From 2001–2003, there was a significant downward trend in the relative percentage of native fishes compared to the first 5 years that the ladder was operated and monitored when the relative percentage of native fishes was somewhat constant at about 92% per year. The relative percentage of native fish has continued to steadily increase since 2003, but declined for the first time during 2008 since 2006. The total number of all fishes collected in the 17-year operation of the fish trap is 136,588. Endangered fish totals from 1996 to 2012 include 122 Colorado pikeminnow, 28 razorback sucker, 8 bonytail, and 1 humpback chub. Overall, native fish still continue to comprise about 84% of all fish processed during this 17-year period (Francis 2012).

A final report was completed in July 2001 and distributed in late-August 2001. This report evaluated the use of the fishway by all fishes, with particular reference to the native, listed fish, Colorado pikeminnow, from 1996-2000 (Burdick 2001).

### IV. Study Goals, Objectives, End Product(s):

Continue to collect data on the number of large-bodied fish, different fish species, and seasonal distribution of fish that use the Redlands passageway. Summarize the annual results of passageway fish use in the annual Recovery Program report.

### V. Study Area: Gunnison River: river mile 3.0.

### VI. Study Methods/Approach:

FY 2014-2015

Passage operation will be similar to previous years with the opening about 15 April and the closing about 15 October during FY 2013-2015. For the most part, daily monitoring of the fish trap will be continued, especially during the months (mid-June through August) when the greatest likelihood of use by Colorado pikeminnow and razorback sucker might occur. This premise is based on the 15 years of historical data documenting the seasonal use by these two fishes at the Redlands fish passageway on the Lower Gunnison River.

The trap is designed to collect large-bodied fish. Depending on manpower, the fish trap at the passageway will be run at least every other day, Monday through Friday, and where possible every weekday. All fish will be sorted by species and counted. Vital statistics including length, weight, and PIT-tag IDs will continued to be collected for all listed species found in the trap. Other introduced species (e. g., largemouth bass, smallmouth bass, green sunfish, black bullhead, white sucker, carp) collected will be sacrificed and disposed of in a manner that will

not constitute a nuisance or as otherwise directed by CDOW. Channel catfish will be returned downstream of the fish ladder alive.

In addition to collecting and counting fish in the fish trap, FWS personnel will continue to be responsible for periodic cleaning of river borne sediment in the fish trap and routine cleaning of surface and submerged trash, debris, and river borne algae from the trash grates and bar screens in the forebay of the passageway. Other tasks include: regulating river flows through the fish ladder and attraction flow to remove sediment from the fishway, noxious weed control, and removing all stranded fish in the fish trap and dewatered portion of the fish ladder prior to winterizing. FWS personnel will also be responsible for opening and winterizing the passageway.

## VII. Task Description and Schedule:

### Description

Task 1. Routine O & M of Redlands fish ladder and fish trap which includes monitoring the fish trap, sorting, examining, and enumerating all fish in addition to removing and disposing of all non-native fish; removing sediment from the trap and cleaning trash and debris from the trash racks, bar screens, fish trap, and fishway entrance; regulating river flows through the fish ladder and attraction flow to remove sediment from the fishway, noxious weed control, and removing all stranded fish in the fish trap and dewatered portion of the fish ladder prior to winterizing

Task 2. Compile and summarize fish use data; prepare annual RIP report.

### Schedule

Task 1. 4/2014 – 10/2014; 4/2015 – 10/2015

Task 2. 10/2014 – 11/2014; 10/2015 – 11/2015

VIII. Deliverables, Due Dates, and Budget by Fiscal Year:

FY 2014

Deliverables: *Tasks 1 and 2*

FY 2014									
	Labor	Title	# of employees	Hours	Reg. Rate	OT Hours	OT Rate		Total
		Project Leader GS-14		1	100	78.63	0	0	7863
		Administrative Officer GS-09		1	100	42.15	0	0	4215
		Fishery Biologist GS-11		1	480	46.53	0	0	22334.4
		Crew leader Tech. GS-06		1	120	30.88	0	46.32	3705.6
		Biological Tech. GS-05		2	680	18.39	0	27.58	25010.4
	<b>Labor Subtotal</b>								63128.4
	Equipment & Supplies	Category	Item	Quantity	Unit	Rate	Duration		Total
		Office Supplies	Computer Supplies and Peripherals						50
		Office Supplies	Ink Cartridges and paper						50
		Office Supplies	Cell, SAT, and Office phone service						100
		Field Equipment	GSA vehicle lease per month	1	each	344.02	6		2064.12
		Field Equipment	Mileage	2800	miles	0.31	1		868
		Field Equipment	PPE (e.g. rubber boots, first aid)						200
		Field Equipment	Fish disposal at county landfill						200
		Field Equipment	Ground Maint. (e.g. sprayer, round-up)						200
		Field Equipment	Nets, Rakes, Tools						200
		Annual Electrical	lights, pump, water data logging equip.						1442
	<b>Equipment Total</b>								5,374
									<b>Grand Total</b>
	<b>USFWS Grand Jct.</b>								68503

FY 2015

Deliverables: *Tasks 1 and 2*

<b>FY 2015</b>									
	<b>Labor</b>	<b>Title</b>	<b># of employees</b>	<b>Hours</b>	<b>Reg. Rate</b>	<b>OT Hours</b>	<b>OT Rate</b>		<b>Total</b>
		Project Leader GS-14	1	100	80.99	0	0		8099
		Administrative Officer GS-09	1	100	43.41	0	0		4341
		Fishery Biologist GS-11	1	480	47.93	0	0		23006.4
		Crew leader Tech. GS-06	1	120	31.81	0	47.71		3817.2
		Biological Tech. GS-05	2	680	18.94	0	28.41		25758.4
	<b>Labor Subtotal</b>								65022
	<b>Equipment &amp; Supplies</b>	<b>Category</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Duration</b>		<b>Total</b>
		Office Supplies	Computer Supplies and Peripherals						50
		Office Supplies	Ink Cartridges and paper						50
		Office Supplies	Cell, SAT, and Office phone service						100
		Field Equipment	GSA vehicle lease per month	1	each	354.34	6		2126.04
		Field Equipment	Mileage	2800	miles	0.32	1		896
		Field Equipment	PPE (e.g. rubber boots, first aid)						200
		Field Equipment	Fish disposal at county landfill						200
		Field Equipment	Ground Maint. (e.g. sprayer, round-up)						200
		Field Equipment	Nets, Rakes, Tools						200
		Annual Electrical	lights, pump, water data logging equip.						1442
	<b>Equipment Total</b>								5,464
									<b>Grand Total</b>
	<b>USFWS Grand Jct.</b>								70486

**Out-year budgets for Redlands Fish Ladder Operation: 2016-2018**

**THESE BUDGETS ARE ESTIMATES ONLY AND MAY NOT REPRESENT ACTUAL COSTS**

FY 2016

Deliverables: *Tasks 1 and 2*

<b>FY 2016</b>									
	<b>Labor</b>	<b>Title</b>	<b># of employees</b>	<b>Hours</b>	<b>Reg. Rate</b>	<b>OT Hours</b>	<b>OT Rate</b>		<b>Total</b>
		Project Leader GS-14		1	100	83.42	0	0	8342
		Administrative Officer GS-09		1	100	44.72	0	0	4472
		Fishery Biologist GS-11		1	480	49.36	0	0	23692.8
		Crew leader Tech. GS-06		1	120	32.76	0	49.14	3931.2
		Biological Tech. GS-05		2	680	19.51	0	29.26	26533.6
	<b>Labor Subtotal</b>								66971.6
	<b>Equipment &amp; Supplies</b>	<b>Category</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Duration</b>		<b>Total</b>
		Office Supplies	Computer Supplies and Peripherals						50
		Office Supplies	Ink Cartridges and paper						50
		Office Supplies	Cell, SAT, and Office phone service						100
		Field Equipment	GSA vehicle lease per month	1	each	364.97	6		2189.82
		Field Equipment	Mileage	2800	miles	0.33	1		924
		Field Equipment	PPE (e.g. rubber boots, first aid)						200
		Field Equipment	Fish disposal at county landfill						200
		Field Equipment	Ground Maint. (e.g. sprayer, round-up)						200
		Field Equipment	Nets, Rakes, Tools						200
		Annual Electrical	lights, pump, water data logging equip.						1442
	<b>Equipment Total</b>								5,556
									<b>Grand Total</b>
	<b>USFWS Grand Jct.</b>								72527

FY 2017

Deliverables: *Tasks 1 and 2*

<b>FY 2017</b>									
	<b>Labor</b>	<b>Title</b>	<b># of employees</b>	<b>Hours</b>	<b>Reg. Rate</b>	<b>OT Hours</b>	<b>OT Rate</b>		<b>Total</b>
		Project Leader GS-14		1	100	85.92	0	0	8592
		Administrative Officer GS-09		1	100	46.06	0	0	4606
		Fishery Biologist GS-11		1	480	50.84	0	0	24403.2
		Crew leader Tech. GS-06		1	120	32.76	0	49.14	3931.2
		Biological Tech. GS-05		2	680	20.09	0	30.14	27322.4
	<b>Labor Subtotal</b>								68854.8
	<b>Equipment &amp; Supplies</b>	<b>Category</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Duration</b>		<b>Total</b>
		Office Supplies	Computer Supplies and Peripherals						50
		Office Supplies	Ink Cartridges and paper						50
		Office Supplies	Cell, SAT, and Office phone service						100
		Field Equipment	GSA vehicle lease per month	1	each	375.92	6		2255.52
		Field Equipment	Mileage	2800	miles	0.34	1		952
		Field Equipment	PPE (e.g. rubber boots, first aid)						200
		Field Equipment	Fish disposal at county landfill						200
		Field Equipment	Ground Maint. (e.g. sprayer, round-up)						200
		Field Equipment	Nets, Rakes, Tools						200
		Annual Electrical	lights, pump, water data logging equip.						1442
	<b>Equipment Total</b>								5,650
									<b>Grand Total</b>
	<b>USFWS Grand Jct.</b>								74504

FY 2018

Deliverables: *Tasks 1 and 2*

<b>FY 2018</b>									
	<b>Labor</b>	<b>Title</b>	<b># of employees</b>	<b>Hours</b>	<b>Reg. Rate</b>	<b>OT Hours</b>	<b>OT Rate</b>		<b>Total</b>
		Project Leader GS-14		1	100	88.5	0	0	8850
		Administrative Officer GS-09		1	100	47.44	0	0	4744
		Fishery Biologist GS-11		1	480	52.37	0	0	25137.6
		Crew leader Tech. GS-06		1	120	34.76	0	52.13	4171.2
		Biological Tech. GS-05		2	680	20.7	0	31.04	28152
	<b>Labor Subtotal</b>								71054.8
	<b>Equipment &amp; Supplies</b>	<b>Category</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Duration</b>		<b>Total</b>
		Office Supplies	Computer Supplies and Peripherals						50
		Office Supplies	Ink Cartridges and paper						50
		Office Supplies	Cell, SAT, and Office phone service						100
		Field Equipment	GSA vehicle lease per month	1	each	387.2	6		2323.2
		Field Equipment	Mileage	2800	miles	0.35	1		980
		Field Equipment	PPE (e.g. rubber boots, first aid)						200
		Field Equipment	Fish disposal at county landfill						200
		Field Equipment	Ground Maint. (e.g. sprayer, round-up)						200
		Field Equipment	Nets, Rakes, Tools						200
		Annual Electrical	lights, pump, water data logging equip.						1442
	<b>Equipment Total</b>								5,745
									<b>Grand Total</b>
	<b>USFWS Grand Jct.</b>								76800

IX. Budget Summary:

FY2014	
USFWS-GJ	\$ 68,503
FY2015	
USFWS-GJ	\$ 70,486
2014-2015 Total =	\$138,989

Estimated Budget Summary for Fiscal Years 2016-2018:

FY2016	
USFWS-GJ	\$ 72,527
FY2017	
USFWS-GJ	\$ 74,504
FY2018	
USFWS-GJ	\$ 76,800
2016-2018 Total =	\$223,831
5-Year Total =	\$362,820

X. Reviewers: Program Staff and Biology Committee

XI. References:

Burdick, B. D. 2001. Five-year evaluation of fish passage at the Redlands Diversion Dam on the Gunnison River near Grand Junction, Colorado: 1996-2000. Recovery Program Project Number CAP-4b. Final report prepared for the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin. U. S. Fish and Wildlife Service, Grand Junction, Colorado. 57 pp. + appendices.

Francis, T.A. 2012. Evaluation of the effectiveness of the fish passage structure at the Redlands Dam. Annual report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin. Recovery Program Project Number C-4b-RED. U. S. Fish and Wildlife Service, Colorado River Fishery Project, Grand Junction, Colorado.